

1995 Interview wherein the Examiner "indicated that the rejection over Moss [Mackett et al.] would be withdrawn both because of reconsideration of support for claims in 12/81 [USSN 06/334,456] & 12/82 [USSN 06/446,824] applications & publication of Moss [Mackett et al.] after date of 12/82 [application]."

Reconsideration and withdrawal of the rejections of this application, withdrawal of the finality of the July 12, 1995 Office Action, as well as withdrawal of that Office Action, the addition of this application to Interference No. 103,399, designation of claims 33 to 51 as corresponding to the Count, substitution of claim 42 as the Count, and redeclaration of the Interference with Paoletti as Senior Party, are respectfully requested. To any extent necessary, this paper is to be considered a Petition For Withdrawal of Finality, as well as a Petition for Consideration After Final Rejection under 37 C.F.R. §1.129(a). The Commissioner is hereby authorized to charge any requisite fee for such petitions to Deposit Account No. 03-3925.

While it is believed that in view of the November 14, 1995 Amendment After Final Action and the matters discussed during the Interviews, the above-requested relief will be granted upon overcoming the double-patenting rejection (Office Action, at 2), a general summary of matters discussed during the November 14, 1995 Interview is set forth below.

However, turning first to the double-patenting rejection, it is believed that this rejection is the only rejection to remain pending after the November 14, 1995 Amendment After Final Action and the Interviews because it is believed that the Examiner is in agreement with Applicants that: There is written description and enablement for expression under vaccinia control in the '330 Patent. It is apparent, and would have been apparent to the ordinary skilled artisan at the filing date of USSN 06/334,456, from which the '330 Patent issued, that expression was under vaccinia control. There is adequate support for the broad claims, e.g., claim 42, as numerous functional promoters and means for locating them were known in the art. That Mackett et al. is not prior art. And, that only the obviousness-type double-patenting rejection of claims 48 and 49 in view of claim 7 of the '112 Patent remains as the pending rejection.

Submitted herewith, without any prejudice or admission, is a Terminal Disclaimer as to the '112 Patent, together with a check for \$110.00 in payment of the fee set forth for recordal of a Terminal Disclaimer; the Commissioner is hereby authorized to charge any additionally required fee for consideration, entry and recordal of the Terminal Disclaimer, or credit any overpayment therein to Deposit Account No. 03-3925. Consideration, entry, and recordal of the Terminal Disclaimer are earnestly solicited.

Applicants respectfully reserve the right to petition for withdrawal of the Terminal Disclaimer after the outcome of the Interference; for instance, if after the Interference claims 48 and 49 are no longer pending in the application, or if it is otherwise believed that the Terminal Disclaimer is no longer necessary.

The herewith submission of the Terminal Disclaimer is merely to expedite the granting of the relief requested, including the passage of this application to the Board. There is no admission as to any obviousness as to any claims of the '112 Patent. See Quad Environmental Technologies v. Union Sanitary District, 20 U.S.P.Q.2d 1392, 1394-95 (Fed. Cir. 1991).

In summary of matters discussed during the Interviews, it is noted that the presently claimed subject matter was asserted to have "adjacency" because the term merely means deliberate placement, i.e., placement for vaccinia control of expression; and, with citation to the Cochran article, because the 7.5 promoter used in Moss' claims and examples fails to meet the definition ascribed to "adjacent" from the common, non-technical dictionary.

With regard to promoters and non-essential regions, particularly in view of the disclosure in the '330 Patent, attention during the Interviews was directed to column 3, lines 8 to 28 and column 14, lines 51 to 62 of the '330 Patent, *inter alia*, in view of Panicali et al. 1981 and Moss et al. 1981 (see

November 14, 1995 Amendment After Final Action at pages 29-30 and 31-36). The '330 Patent teaches the portion of the L-variant deleted in the S-variant as non-essential, means for mapping the vaccinia genome (and thus ascertaining non-essential regions and promoters therein); and the Panicali and Moss articles teach that that region contains "an immediate early or early transcriptional unit."

Note also, as argued by Moss (with emphasis added):

Wittek et al., Cell 21:487-493 (1980), which provides a detailed analysis of individual poxvirus mRNAs conducted and published well before the present application's effective filing date.

Other references ... provide similar guidance with regard to precise mapping of RNA start codons. For instance, Weaver and Weissman, Nucleic Acids Research 7(5):1175-1193 (1979), describe a general method of mapping any RNA start site by labeling the 5' end of a DNA segment with 32p hybridizing the labeled DNA to nRNA, digesting the unhybridized regions with a single-stranded nuclease such as S1 and analyzing the protected probe by polyacrylamide gel electrophoresis alongside a sequence ladder. The method was refined by Green and Roeder, Cell 22:231-242 (1980). A general method of sequencing any DNA was reported by Maxam and Gilbert, Proc. Nat'l Acad. Sci. USA 74(2):560564 (1977). These methods were used by Venkatesan, Cell 125:805-813 (1981), and J. Virol. 44(2):637 (1982), prior to the filing date of the present application. Essentially similar procedures were subsequently used to determine the 5' ends of dozens of vaccinia virus nRNAs. See, e.g., Lee-Chen et al., Virology 163:64-69 (1988); Rosel and Moss, J. Virol. 56:830-838 (1985); Rosel et al., J. Virol. 60:436-39 (1986) and Weir and Moss, J. Virol. 51:662-669 (1984).

Clearly the L-variant DNA and promoter therein were enabled by the '330 Patent in view of the prior art such that no undue experimentation was required to practice the invention of claim 42 with respect to the L-variant DNA and the promoter therein.

Indeed, Panicali et al. 1981 discloses (at 1007-1008) that: "the unique sequences present in the L-variant ... were expressed," and "in vivo RNA hybridized to the unique *AvaI*-H sequences," and that "RNA synthesized in vitro by S-variant virus hybridized to a number of *AvaI* fragments but significantly did not hybridize to L-variant *AvaI* fragment H," i.e., that the non-essential region disclosed in the '330 Patent is the *AvaI*-H fragment and there is a promoter thereat. In this regard, as noted at footnote 3 of the November 14, 1995 Amendment After Final Action, the '330 Patent (USSN 334,456) discloses in its general teachings as an exemplary embodiment inserting the HSV TK gene without the "HSV promoter sites." Accordingly, when the '330 Patent is read in the light of the knowledge in the art, VP22, containing the HSV TK gene without the "HSV promoter sites" at the *AvaI*-H fragment (i.e., at the non-essential region in the L-variant but not in the S-variant), was fully described and enabled in the '330 Patent, as was claim 42.

(Note also the use in the Wittek article of the term "adjacent", i.e., that the term is used in the same manner as in the Venkatesan article, namely to connote contiguous, and is not

used in the manner employed during Moss' prosecution, namely in accordance with a common, non-technical dictionary definition, thereby further supporting Applicants position concerning the term "adjacent").

During the Interviews attention was also directed to column 14, lines 51 to 62 of the '330 Patent, *inter alia*, in view of the Venkatessan article (see November 14, 1995 Amendment After Final Action at pages 29-30 and 31-36). The '330 Patent teaches means for mapping the vaccinia genome (and thus ascertaining non-essential regions and promoters therein), and from the knowledge in the art, e.g., Venkatessan, the 7.5 promoter, its location, and that the 7.5 region was non-essential, were known in the art. Thus, the skilled artisan could practice the invention of claim 42 with respect to the 7.5 promoter or region without undue experimentation.

And, during the Interviews, attention was directed to the disclosure in the '330 Patent of the TK deficient vaccinia virus, *inter alia*, and the Hruby articles (see November 14, 1995 Amendment After Final Action at 29, 36-38), including that in 1981 the Hruby articles disclosed that the TK region was non-essential (confirmed by the TK deficient vaccinia virus disclosed in the '330 Patent), as well as the control of expression of the vaccinia virus TK gene and the cell-free expression of vaccinia virus TK. The Hruby articles also disclose that their techniques can be used for mapping the Tk

gene (but nonetheless, the Hruby articles provided mRNA for the TK gene and means for cell-free expression thereby). Thus, the skilled artisan could practice the invention of claim 42 with respect to the TK region and the TK promoter without undue experimentation.

Accordingly, claim 42 was described and enabled in the '330 Patent; and in view of the Terminal Disclaimer herewith and the November 14, 1995 Amendment After Final Action, and the matters discussed during the Interviews, the application is in condition for allowance.

Therefore, all objections and rejections should be withdrawn; the claims should be accorded the benefit of USSN 334,456 and 446,824; the application should be added to the Interference (with Paoletti as Senior Party); and, such relief is respectfully requested. Additionally, the Office Action and its finality should be withdrawn, and such relief is respectfully requested.

In view of the foregoing, consideration and entry of this paper and of the accompanying Terminal Disclaimer, as well as of the November 14, 1995 Amendment After Final Action, withdrawal of the Office Action and of its finality, addition of this application to the Interference with claims 33 to 51

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designated as corresponding to the Count, substitution of the
Count with Claim 42, and redeclaration the Interference with
Paoletti as Senior Party, are respectfully requested.

Respectfully submitted,

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A handwritten signature in cursive script, appearing to read "Thomas J. Kowalski", written over a horizontal line.

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